

SYG Start Here Guide

SYG-70CR-DK

Introduction

At Future Designs, our goal is to make it easy for our customers to get their projects up and running as quickly as possible. The SYG-70CR-DK is a kit containing a SYG-70CR-BA (board assembly), Segger J-Link CortexM debugger, power supply, cables and breakout board. The SYG-70CR-BA is pre-programmed with demo software which connects to IBM's cloud. This guide will show you how to access sensor data from the cloud using the IBM Bluemix® Quickstart and direct you to other example software and application notes.

Aside from this document, there are many additional resources available at the [Product Page](#) or at the [SYG Family Page](#) or [App Note Tab](#). If you ever need more help, [contact us](#) and we will be happy to assist you.

Hardware Used in This Guide (Included in Kit)

- SYG-70CR-BA
- USB Type A to USB Type Mini B Cable

Contents

1. Hardware Verification.....	3
2. Sensor to Cloud Demo	4
2.1. Connecting to WIFI.....	4
2.2. Navigating the Demo Application	6
2.3. Using IBM Watson Quickstart	7
3. Next Steps.....	9
4. Website and Support	9

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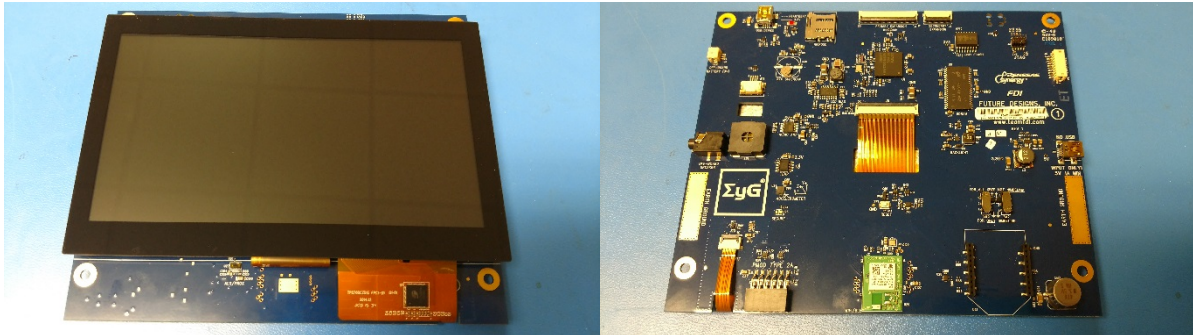
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1. Hardware Verification

The SYG-70CR-BA comes pre-programmed with a demo cloud application that allows you to verify many of the hardware features when you first power it on.

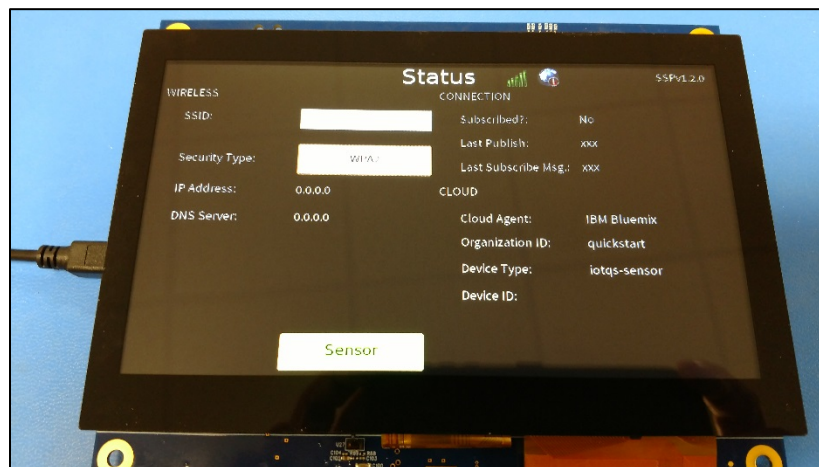


Power is supplied via the USB power adapter and cable provided in the kit.

1. Connect the USB cable to the mini USB Type B connector (P2) on the SYG.
2. Connect the other end of the USB cable to the provided universal AC power supply's 5V USB power output.



Once power has been connected and after displaying a splash screen for a period of time, the following screen will appear:



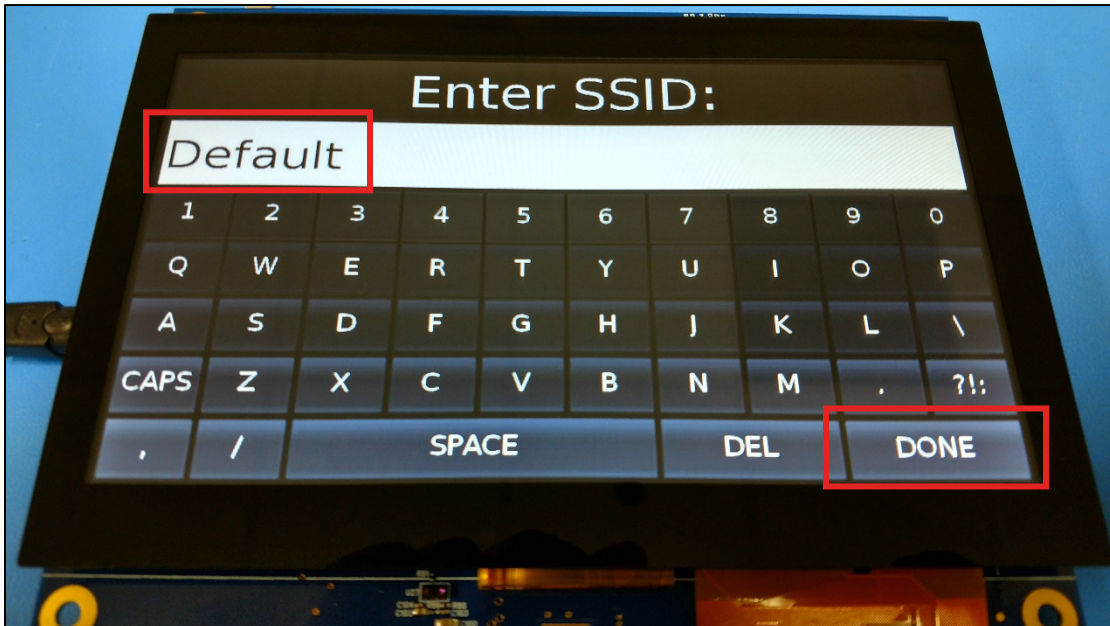
2. Sensor to Cloud Demo

The Sensor to Cloud demo installed on the SYG-70CR-BA can be used to demonstrate how the SYG-70CR-BA uses Synergy and UbiquiOS software to send sensor data to Bluemix. The SYG-70CR-BA's on-board accelerometer and temperature sensors' data, as well as the touch screen coordinates generated from touching the screen can all be sent to the cloud. Additional sensors on-board the SYG-70CR-BA include an ambient light sensor and proximity sensor.

2.1. Connecting to WIFI

Before you can view sensor data on the cloud, your SYG-70CR-BA will need to be configured to connect to your wireless network. Complete the following steps to update the SSID and Password:

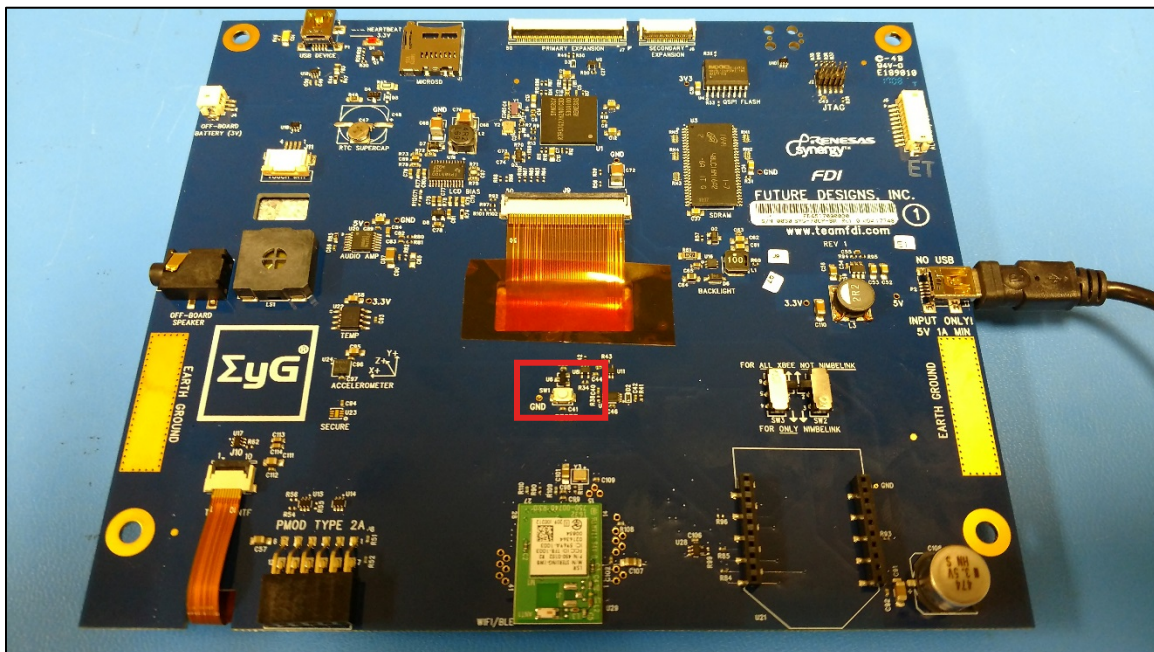
1. Press the SSID field to bring up a keyboard.
2. Enter the SSID for your network.
3. Press **DONE**.



4. Enter the password for your WIFI network.
5. Press **DONE**.

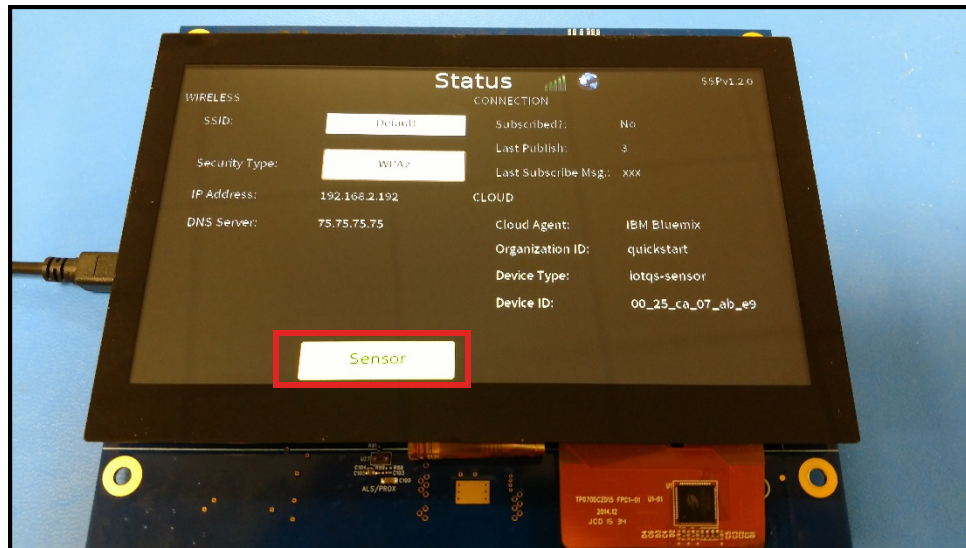


6. Select the security type of your network by pressing the Security Type field until the correct type is shown.
7. Reset the SYG-70CR-BA by pressing the reset button on the underside of the unit.

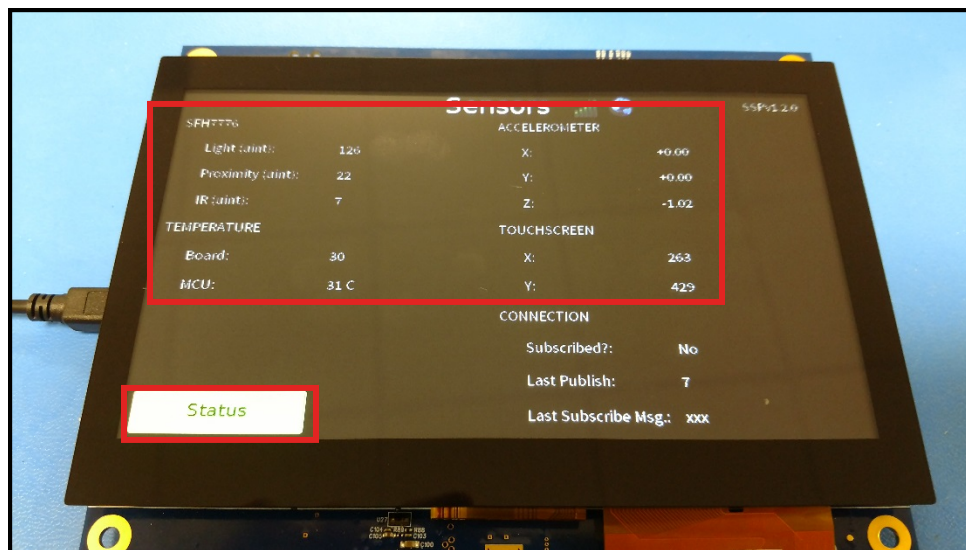


2.2. Navigating the Demo Application

1. View the sensor data by pressing the **Sensor** button on the touchscreen.



2. After watching the sensor values update, return to the Status page by clicking the **Status** button.

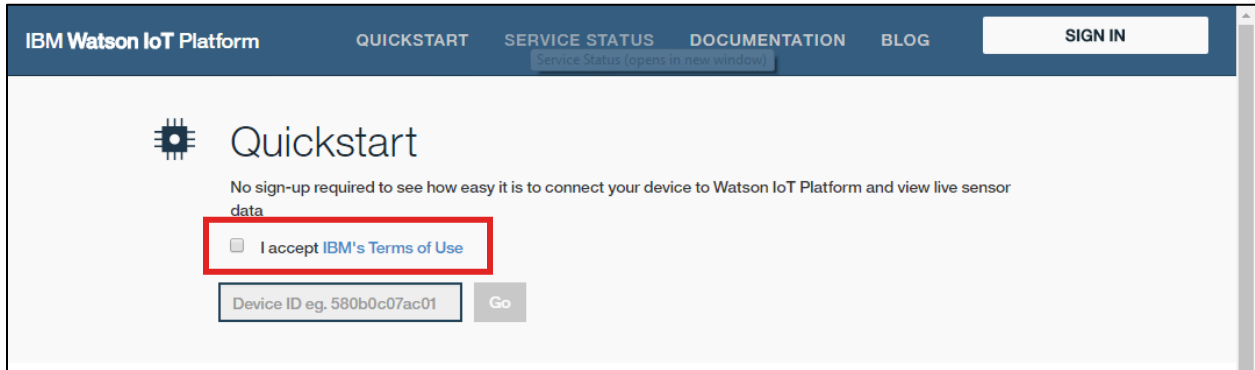


Once the SYG-70CR-BA has successfully connected to the network, the icon representing signal strength will turn green and the **Device ID** will appear. This is the Device ID that will be used to connect to the IBM Watson Quickstart page.

After connecting to IBM Bluemix, the red exclamation mark over the Earth icon will disappear.

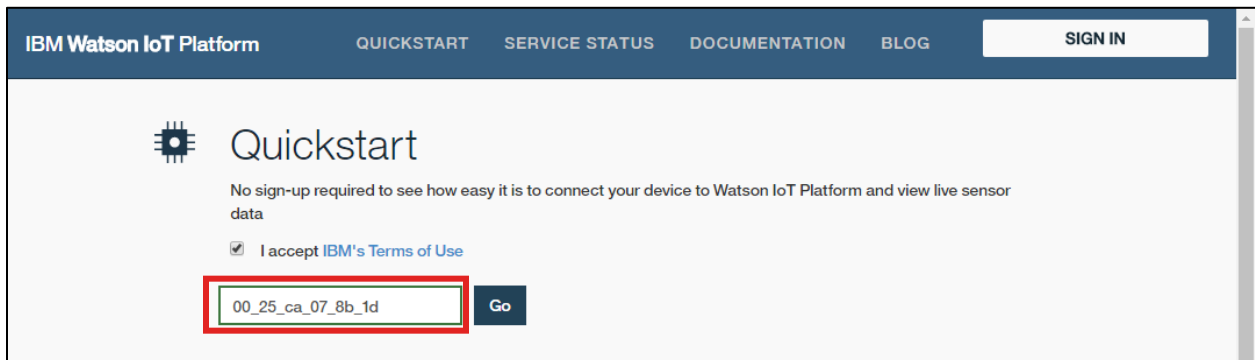
2.3. Using IBM Watson Quickstart

1. Open the IBM Watson Quickstart page at:
<http://quickstart.internetofthings.ibmcloud.com>.
2. Check the box next to “I accept IBM’s Terms of Use”.



3. Enter the **Device ID** shown in the lower right corner of the SYG-70CR-BA **Status** screen. An example is shown. This number corresponds to the device’s WiFi module and your Device ID will be unique.

NOTE: The **Device ID** is case sensitive and must be entered as shown on the SYG-70CR-BA!



4. Click **Go**.

Once the device transmits the next packet, you will begin to see a visualization of all the sensor data coming from the SYG-70CR-BA. Click on the different **Datapoints** shown below the graph to view different sensor data.

The screenshot shows the IBM Watson IoT Platform Quickstart interface. At the top, there is a navigation bar with links for QUICKSTART, SERVICE STATUS, DOCUMENTATION, and BLO. Below the navigation bar, the 'Quickstart' section features a chip icon and the text: 'No sign-up required to see how easy it is to connect your device to Watson IoT Platform and view data'. A text input field contains the device ID '00_25_ca_07_8b_1d', and a 'Go' button is positioned to its right. A green dot and text indicate 'Last message received at 10:12:42'. Below this, a line graph displays sensor data for the device '00_25_ca_07_8b_1d' under the sensor type 'iotsensor.light'. The y-axis represents light intensity, ranging from 8180 to 8320. The x-axis shows time from 10:08:18 to 10:11:22. The graph shows a fluctuating orange line with data points. A red callout bubble on the left side of the interface points to the device ID input field, containing the text: 'This is where you put the Device ID'.

3. Next Steps

Below is a list of the current application notes (or those being developed). Check our website as we are constantly developing new demos and application notes:

- <http://www.teamfdi.com/product-details/SYG-70CR-DK#software>
 - Connecting SYG-70CR-DK to the MediumOne web services.
 - Connecting SYG-70CR-DK to IBM Bluemix/IoT Watson cloud services.
 - Sensor to Cloud using SYG-70CR-DK and Node Red in IBM Bluemix/IoT Watson.
- <http://www.teamfdi.com/syg#syg-appnotes>
 - All SYG Application Notes (in one spot)

4. Website and Support

Documentation at <http://www.teamfdi.com/product-details/SYG-70CR-DK#documentation>

- SYG-70CR-DK User's Manual
- SYG-70CR-DK Quick Start Guide
- SYG-70CR-DK Start Here Guide (this guide)

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